

Evaluating the quality and reliability of YouTube videos on post-CABG rehabilitation: highlighting the need for clinician-led educational materials

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YouTube videos on post-CABG rehabilitation

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Abstract

Aim: The purpose of this study is to assess the quality, credibility, and educational appropriateness of YouTube videos that provide information on postoperative care and rehabilitation after Coronary Artery Bypass Graft (CABG) surgery.

Materials and Methods: YouTube was searched using the terms "CABG rehabilitation," "CABG physiotherapy," "CABG recovery exercises," and "post-bypass exercises." Fifty videos that met the inclusion criteria were selected for analysis. To accomplish this, the videos were evaluated using four established assessment tools. The DISCERN instrument and the Global Quality Scale (GQS) were applied to examine the accuracy, reliability, and educational quality of the content. The JAMA Benchmark Criteria were used to assess the transparency and credibility of the information.

Results: The 50 videos reviewed had a mean DISCERN score of 36.8 ± 9.4 and a mean GQS score of 2.3 ± 0.9 and a mean JAMA Benchmark score of 1.2 ± 0.8 , indicating overall low to moderate quality, credibility, and transparency. Videos created by healthcare professionals showed significantly higher DISCERN (49.1 ± 8.0), GQS (3.7 ± 0.7), and JAMA (2.3 ± 0.9) scores compared to other sources ($p < 0.001$). No significant relationship was found between video quality and the number of views ($p > 0.05$).

Discussion: Most CABG rehabilitation videos on YouTube fall within the low to moderate quality range. Therefore, there is a clear need for more scientifically robust and professionally produced content on this platform.

Keywords

coronary artery bypass graft, YouTube, DISCERN, global quality scale, JAMA benchmark criteria

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Introduction

Coronary Artery Bypass Graft (CABG) surgery continues to be a widely utilized and effective intervention for individuals with advanced coronary artery disease. Postoperative cardiac rehabilitation plays a vital role in enhancing recovery, improving functional capacity, lowering postoperative complications, and supporting overall quality of life [1,2]. Standard rehabilitation programs typically incorporate aerobic exercise, respiratory training, mobility strategies, and structured patient education, all of which contribute significantly to restoring cardiopulmonary function following surgery [3].

With the increasing use of digital platforms, many patients now seek health information online. Among these platforms, YouTube has emerged as a particularly popular source, largely due to its accessibility, visual learning environment, and widespread user base [4]. Despite these advantages, the medical content available on YouTube can vary dramatically in accuracy and educational quality, as videos may be uploaded by individuals with diverse expertise and without formal content oversight [5]. Such variability can lead to misinformation, which may influence patient behavior, expectations, and safety—an issue of particular concern in clinical areas that require structured and closely monitored rehabilitation, such as post-CABG recovery.

To mitigate these concerns, validated evaluation tools—including the DISCERN instrument and the Global Quality Scale (GQS)—are commonly applied to assess the reliability, thoroughness, and educational usefulness of online health resources [6,7,8]. These instruments enable objective assessment of patient-oriented educational materials across web-based platforms.

The JAMA Benchmark Criteria, developed by the Journal of the American Medical Association, offer a structured approach for judging the accuracy, transparency, and trustworthiness of health information available on digital platforms. With online resources playing a growing role in patient awareness and medical decision-making, evaluating their quality has become increasingly important. Today, the JAMA criteria are commonly used in studies reviewing websites, social media posts, and patient education materials because they provide a clear and effective method for assessing informational integrity [9].

As patients increasingly rely on online resources for postoperative guidance, evaluating the quality of YouTube videos presenting CABG rehabilitation information has become crucial. Therefore, the aim of this study is to systematically assess these videos using the DISCERN, GQS, and JAMA Benchmark Criteria tools to identify current strengths, limitations, and areas in need of improvement within available online educational content.

Materials and Methods

A comprehensive search was carried out on YouTube to locate videos addressing postoperative rehabilitation after CABG surgery. To avoid bias from individualized recommendations and to maintain consistency across results, all searches were conducted in incognito mode. The search was completed on a single day and utilized the following predetermined keywords: “CABG rehabilitation,” “CABG physiotherapy,” “CABG recovery exercises,” “bypass rehabilitation,” and “post-bypass exercises”. For each term, the first 50 videos displayed by YouTube’s relevance-based ranking system were reviewed. Duplicate videos identified across different search terms, and those that failed to meet the predefined eligibility criteria were excluded. Following this screening process, 50 videos met all requirements and were included in the final dataset for analysis. This study analyzed publicly accessible online content and did not involve human participants, patient data, or identifiable personal information. Therefore, in accordance with international ethical guidelines for research on open-access digital

materials, ethical committee approval was not required.

Videos were included in the study if they fulfilled specific eligibility requirements. To be considered appropriate for analysis, a video had to contain content directly related to postoperative rehabilitation or exercise following CABG surgery, be publicly accessible without viewing restrictions, and have a minimum duration of at least one minute. Additionally, eligible videos were required to provide educational material such as exercise demonstrations, physiotherapy guidance, or postoperative care instructions, and they had to be published in either English or Turkish. For all videos that met the inclusion criteria, data extraction was performed using a standardized collection form. The following characteristics were recorded: video title, the identity of the uploader, the date of upload, video duration in minutes, total number of views, number of likes, and the uploader category, which was classified as healthcare professional, hospital or clinic, commercial creator, or patient/layperson. All videos were evaluated independently by two reviewers, and any discrepancies between assessments were resolved through discussion and consensus. Videos that failed to meet these standards were excluded. Specifically, videos were removed from the dataset if they appeared more than once across different keyword searches, consisted solely of intraoperative or surgical footage, or primarily served as commercial advertisements or product promotions [8,9].

The Global Quality Scale (GQS) was used to rate the overall educational value, coherence, and usefulness of each video on a 5-point Likert scale, with a score of 1 representing poor quality and 5 indicating excellent, comprehensive educational content [8-10]. To assess the quality and reliability of the selected videos, two validated instruments were utilized. The DISCERN Scale—a 16-item tool designed to evaluate the trustworthiness and quality of information regarding treatment options—was applied, with possible scores ranging from 16 to 80, where higher scores indicate greater quality [12].

The JAMA framework examines four key elements—who created the content (authorship), the sources used (attribution), potential conflicts of interest (disclosure), and how current the information is (currency). Through the assessment of these components, clinicians and researchers can determine whether a resource meets accepted standards for reliable health communication [10,11,13].

Statistical analyses were carried out using non-parametric methods due to the non-normal distribution of the dataset. The Mann-Whitney U test was used to compare differences between two independent groups, while the Kruskal-Wallis test was employed for comparisons across multiple uploader categories. The Spearman correlation coefficient was calculated to determine the relationship between video characteristics—such as view count, number of likes, and video duration—and the DISCERN and GQS scores. All numerical data were expressed as mean $\pm$ standard deviation, and statistical significance was defined as $p < 0.05$.

Ethical Approval

This study did not require ethical approval according to the relevant guidelines.

Results

A total of 50 YouTube videos were analyzed. Overall videos (n:50) consisted of healthcare professional videos (n:24) and other sources (n:26). The mean DISCERN score was 36.8 ± 9.4 , the mean Global Quality Scale (GQS) score was 2.3 ± 0.9 , and the mean JAMA Benchmark score was 1.2 ± 0.8 , indicating that the overall quality, credibility, and transparency of the videos were low to moderate. Videos produced by healthcare professionals demonstrated significantly higher DISCERN (49.1 ± 8.0), GQS (3.7 ± 0.7), and JAMA (2.3 ± 0.9) scores compared with

Table 1. Summary of quality scores for CABG rehabilitation videos

Quality Measure	Overall Videos (n = 50)	Healthcare Professional Videos (n=24)	Other Sources Other Sources (n=26)	p value
DISCERN (Mean ± SD)	36.8 ± 9.4	49.1 ± 8.0	30.2 ± 6.7	< 0.001
GQS (Mean ± SD)	2.3 ± 0.9	3.7 ± 0.7	1.8 ± 0.6	< 0.001
JAMA Benchmark Score (0–4)	1.2 ± 0.8	2.3 ± 0.9	0.7 ± 0.5	< 0.001
Correlation With Number of Views	No significant correlation	–	–	> 0.05

videos from non-professional sources ($p < 0.001$). No significant relationship was observed between video quality scores and the number of views ($p > 0.05$) (Table 1).

Discussion

This study evaluated the reliability, educational quality, and transparency of YouTube videos related to postoperative rehabilitation following CABG surgery. Overall, the findings indicate that the majority of available videos fall within a low to moderate quality range based on DISCERN, GQS, and JAMA Benchmark criteria. These results suggest that online content about CABG rehabilitation lacks the level of accuracy, structure, and credibility required for patient education.

Consistent with previous research examining cardiac rehabilitation content on digital platforms, videos produced by healthcare professionals demonstrated significantly higher quality and reliability scores compared with videos uploaded by non-professional sources. This aligns with earlier studies showing that professionally generated content tends to adhere more closely to evidence-based recommendations and includes clearer educational messaging [14,15]. The higher JAMA Benchmark scores among professional videos also reflect better transparency, including clearer authorship, updated information, and appropriate citation of sources.

Another important observation is the absence of a meaningful association between video quality and the number of views. This finding is in line with prior work highlighting that video popularity does not necessarily correlate with educational accuracy or clinical reliability [16]. Therefore, patients may be exposed to widely viewed but low-quality content, which can lead to misconceptions about postoperative recovery and rehabilitation [17].

Given the critical role of structured physiotherapy and supervised rehabilitation in improving outcomes after CABG, the lack of high-quality online resources is concerning. Enhancing the availability of evidence-based, professionally produced educational videos could support patient engagement, improve adherence to rehabilitation programs, and potentially reduce postoperative complications. Professional societies, physiotherapists, and cardiology organizations may consider developing standardized audiovisual materials tailored for patient education.

Limitations

Several limitations of this study should be acknowledged. The evaluation was restricted to YouTube as the sole platform, which limits the applicability of the findings to other digital or social media sources that may also provide information on post-CABG rehabilitation. In addition, the analysis included only a selected set of videos identified through predefined search terms, which may not capture the full scope of available content on the platform. Although validated instruments such as DISCERN, GQS, and the JAMA Benchmark Criteria were used, the assessment process inherently involves a subjective component. Furthermore, as online video content is constantly evolving, the results represent a snapshot in time and may not be reproducible at a later date. Lastly, the study did not evaluate user understanding,

patient engagement, or the direct effects of video content on clinical outcomes, which should be explored in future investigations.

Conclusion

The results indicate that most YouTube videos addressing post-CABG rehabilitation provide information of low to moderate quality with respect to reliability, educational content, and transparency. While videos created by healthcare professionals achieved significantly higher scores for quality and credibility than those from non-professional sources, the overall level of available content remains insufficient. Moreover, the absence of a meaningful relationship between video quality and view count suggests that viewer popularity does not correspond to informational accuracy or clinical relevance. Collectively, these findings reveal a substantial deficiency in evidence-based educational resources on YouTube and emphasize the importance of increased clinician engagement in producing accurate, trustworthy, and patient-focused digital materials to enhance post-CABG rehabilitation and patient education. In summary, this analysis demonstrates that although YouTube serves as a widely accessed educational resource, much of the content related to CABG rehabilitation is suboptimal in terms of reliability and credibility. Higher-quality resources produced by healthcare professionals outperform other sources, reinforcing the importance of expert-led digital education in cardiac rehabilitation.

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Scientific Responsibility Statement

The authors declare that they are responsible for the article's scientific content, including study design, data collection, analysis and interpretation, writing, and some of the main line, or all of the preparation and scientific review of the contents, and approval of the final version of the article.

Animal and Human Rights Statement

No animal or human studies were carried out by the authors for this article.

Data Availability Statement

The datasets used and/or analyzed during the current study are not publicly available due to patient privacy reasons but are available from the corresponding author on reasonable request.

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Conflict of Interest

The authors declare that there is no conflict of interest.